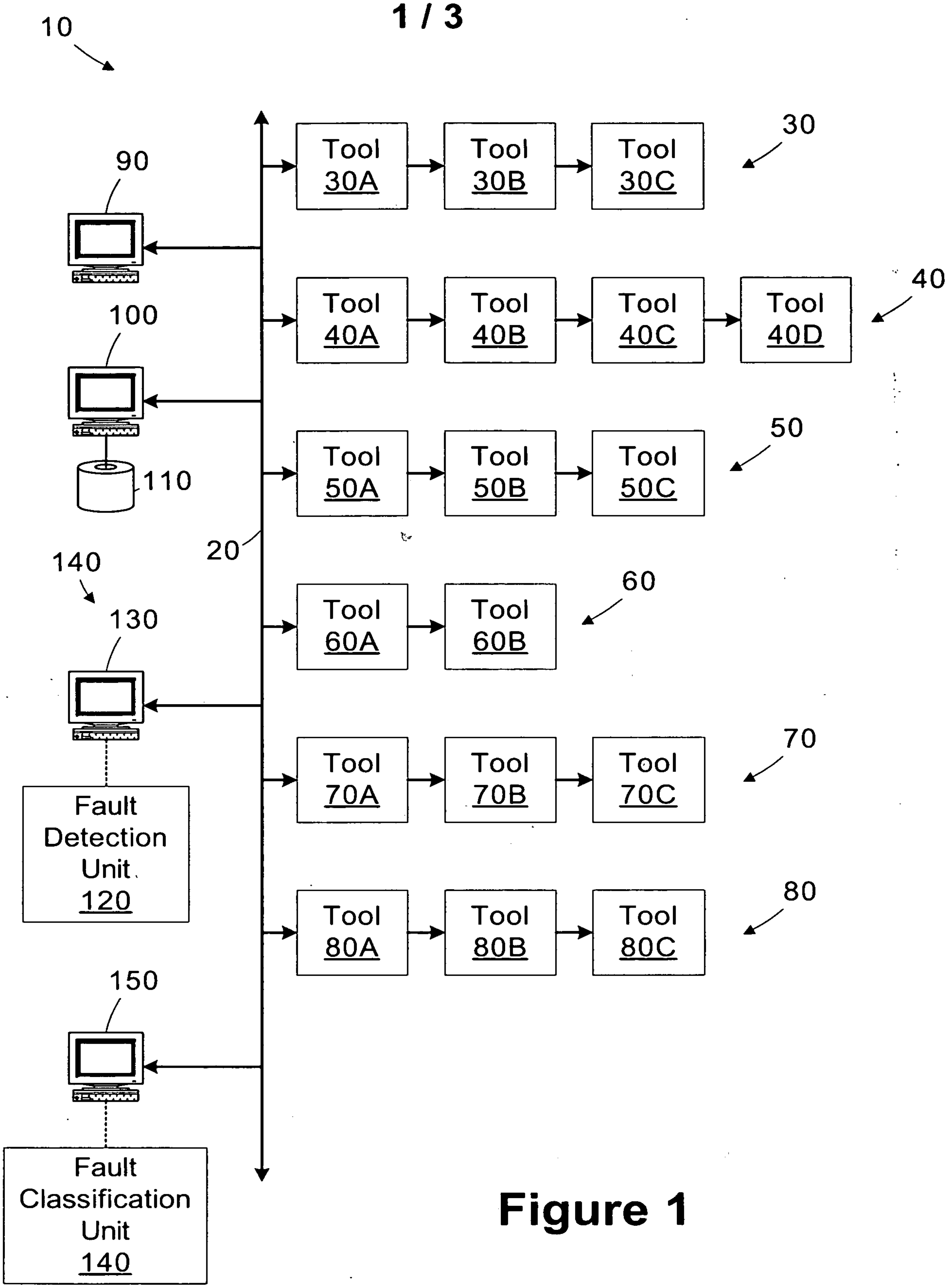
10
90
100
110
140
130
20
150
Tool 30A
Tool 30B
Tool 30C
30
Tool 40A
Tool 40B
Tool 40C
Tool 40D
40
Tool 50A
Tool 50B
Tool 50C
50
Tool 60A
Tool 60B
60
Tool 70A
Tool 70B
Tool 70C
70
Tool 80A
Tool 80B
Tool 80C
80
Fault Detection Unit 120
Fault Classification Unit 140

Figure 1

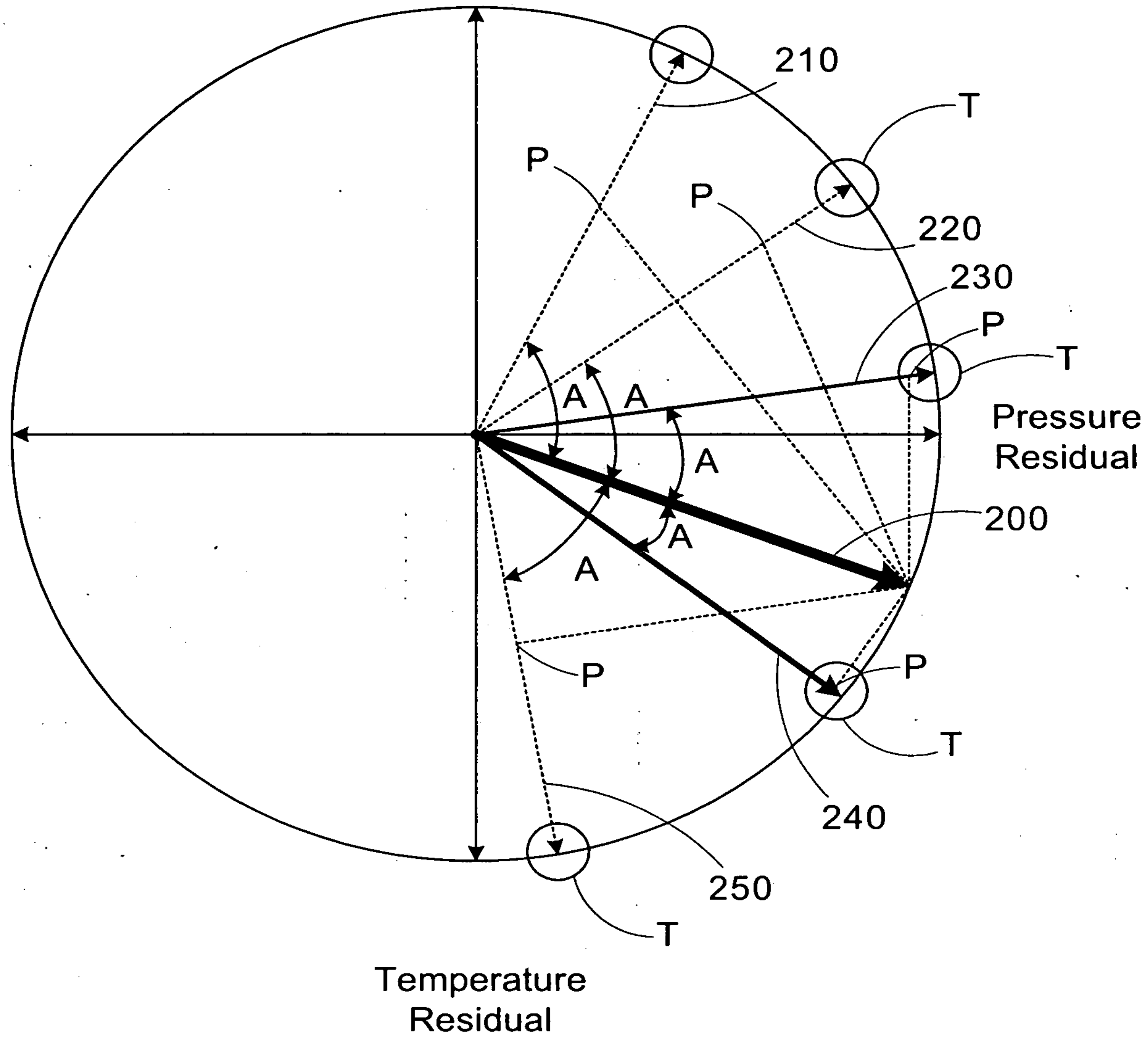
210
T
P
P
220
230
P
T
A
A
Pressure Residual
A
200
A
A
P
P
T
240
250
T
Temperature Residual

Figure 2

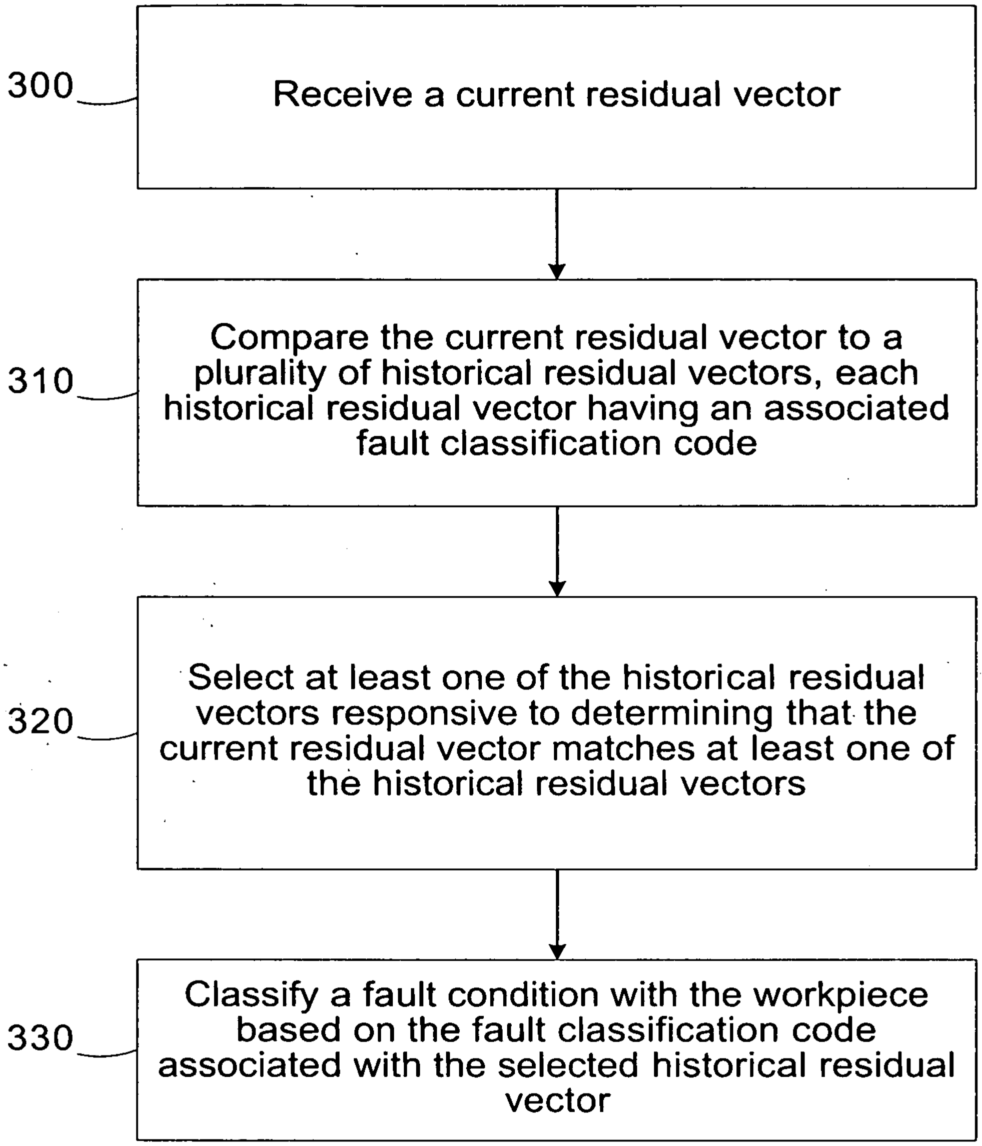
300
Receive a current residual vector
310
Compare the current residual vector to a plurality of historical residual vectors, each historical residual vector having an associated fault classification code
320
Select at least one of the historical residual vectors responsive to determining that the current residual vector matches at least one of the historical residual vectors
330
Classify a fault condition with the workpiece based on the fault classification code associated with the selected historical residual vector

Figure 3